

# THREE NEW SPECIES OF ORIBATID MITES (ACARI: ORIBATEI) FROM OKINAWA IN JAPAN

By

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## Synopsis

NAKATAMARI, Sumio (Okinawa High School, Naha 903, Okinawa, Japan): Three new species of oribatid mites (Acari: Oribatei) from Okinawa in Japan. *Acta arachnol.*, **30**: 97-104 (1982).

Three new species of oribatid mites, *Lohmannia corallium* sp. n., *Cultroribula shukuminensis* sp. n. and *Pergalumna aokii* sp. n. were described from the southern part of Okinawa Island. This is the first record of oribatid mites from the island.

In the Ryukyu Islands about 50 species of oribatid mites were identified and reported from Sakishima Islands including Iriomote-jima, Ishigaki-jima, Miyakojima and some other small islands (AOKI, 1973; AOEI & NAKATAMARI, 1974; NAKATAMARI, 1978, 1980). However, from Okinawa Island, the largest one in Ryukyu, no record of oribatid mites has been published. The present paper deals for the first time with the oribatids in Okinawa Island and gives description of three new species.

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## *Lohmannia corallium* sp. nov.

[Japanese name: Sango-tsutsuharadani]

(Figs. 1-10)

*Material examined.* Holotype (NSMT-Ac 9366, on slide): Tamagusuku-son, southern Okinawa. 15-VIII-1974, S. NAKATAMARI.—19 paratypes (14 on slides 5

in spirits): the same data as holotype. Holotype and paratypes are deposited in the National Science Museum, Tokyo.

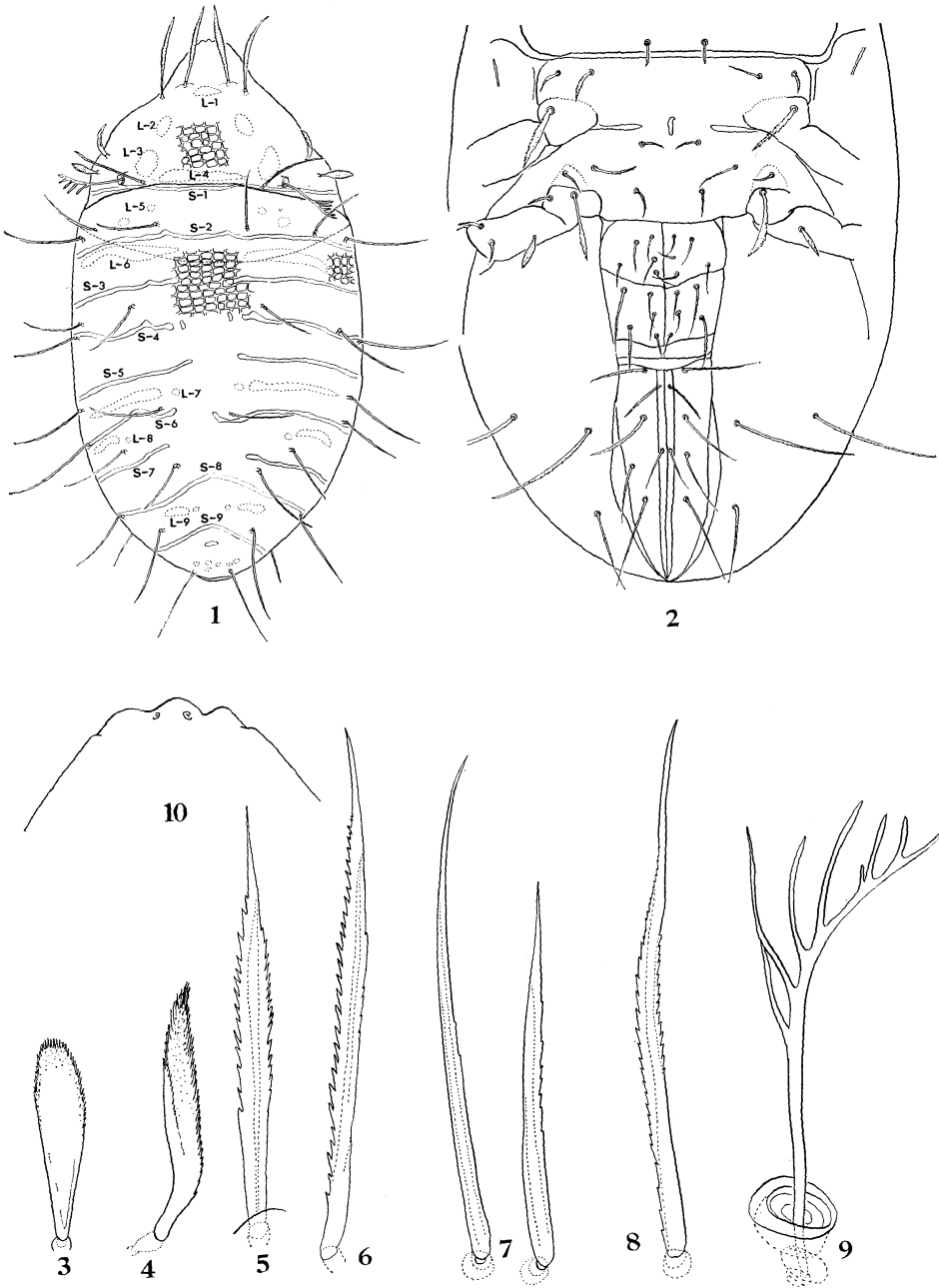
*Measurement.* Body length: 1030–1080  $\mu$ ; width: 560–600  $\mu$ .

*Distinguishing characters.* Prodorsum and notogaster have light spots (areae porosae magnae); L-4, L-6 and L-7 largest and similar in size; L-5, L-7, L-8 and L-9 each separated into two parts, large one and small rounded one. The surface of these areae porosae magnae has mass of short thin tube. Prodorsal and notogastral surface wholly covered by a network-like pattern. A total of 10 ribbon-like transverse bands (fossulae vittiformes) (S-1~S-10) are present; S-1, S-2, S-8 and S-9 are complete, while S-3, S-4, S-5, S-6 and S-7 are interrupted medially; the median end of S-4 somewhat widened irregularly and accompanied by one or two fragments; S-10 very small. Anterior and posterior exobthridaial setae leaf-like with dense barbation marginally (Figs. 3 & 4); the anterior one longer than the posterior one. Front margin of rostrum has 3 rounded projections (Fig. 10). The length of interlamellar, lamellar and rostral setae:  $in > ro > la$ . Sensillus has 6~7 pectinations (Fig. 9).

*Supplementary description.* Genital plate divided into 2 parts, each bearing 5 setae weakly barbed. Middle portion of rostral, lamellar, interlamellar and notogastral setae have serrated margins (Figs. 5–8); degree of the serration strongest in *ro* and weakest in *ntg* and *in*. Mutual distance of notogastral and interlamellar setae:  $di-di > c_1-c_1 > e_1-e_1$ . The anterior part of genital plate shorter than the posterior part. Adanal setae are longer than anal ones. Adanal and anal setae have weak barbation.

*Remarks.* The genus *Lohmannia* have 5 species whose rostral and lamellar setae are leaf-like. The present species resembles in some respects the following ones. *Lohmannia lanceolata* GRANDJEAN, 1950, has a similarity to *L. corallium* in the shape of notogastral setae, the fossulae vittiformes and also the areae porose, but is distinguishable from the latter by the broader rostral and lamellar setae, the wider anterior and posterior exobthridaial setae, and the smaller body (840–880 $\mu$ ). *L. similis* BALOGH, 1962, has a similarity in the shape of rostral setae, lamellar setae, anterior and posterior exobthridaial setae, but the interlamellar and notogastral setae are shorter than those of *L. corallium* and the sensilli bear 9–10 branches. Fossulae vittiformes S-4 of *L. javana* BALOGH, 1961,

Figs. 1–10. *Lohmannia corallium* sp. n.—1: Dorsal. 2: Ventral. 3: Posterior exobthridaial seta. 4: Anterior exobthridaial seta. 5: Lamellar seta. 6: Rostral seta. 7: Notogastral setae. 8: Interlamellar seta. 9: Sensillus. 10: Front margin of rostrum.



are interrupted medially, but those of *L. corallium* are completely fused. In *L. bifoliata* BALOGH, 1961, rostral setae are much longer and wider than lamellar setae and notogastral setae are short, without barbation.

***Cultroribula shukuminensis* sp. nov.**

[Japanese name: Shukumine-marutamagodani]

(Figs. 11-14)

*Material examined.* Holotype (NSMT-Ac 9364, on slide): Mixed wood of Okinawa High School in Naha, Okinawa. 20-XI-1980. S. NAKATAMARI.—6 paratypes (on slides): the same data as holotype. Holotype and paratypes are deposited in the National Science Museum, Tokyo.

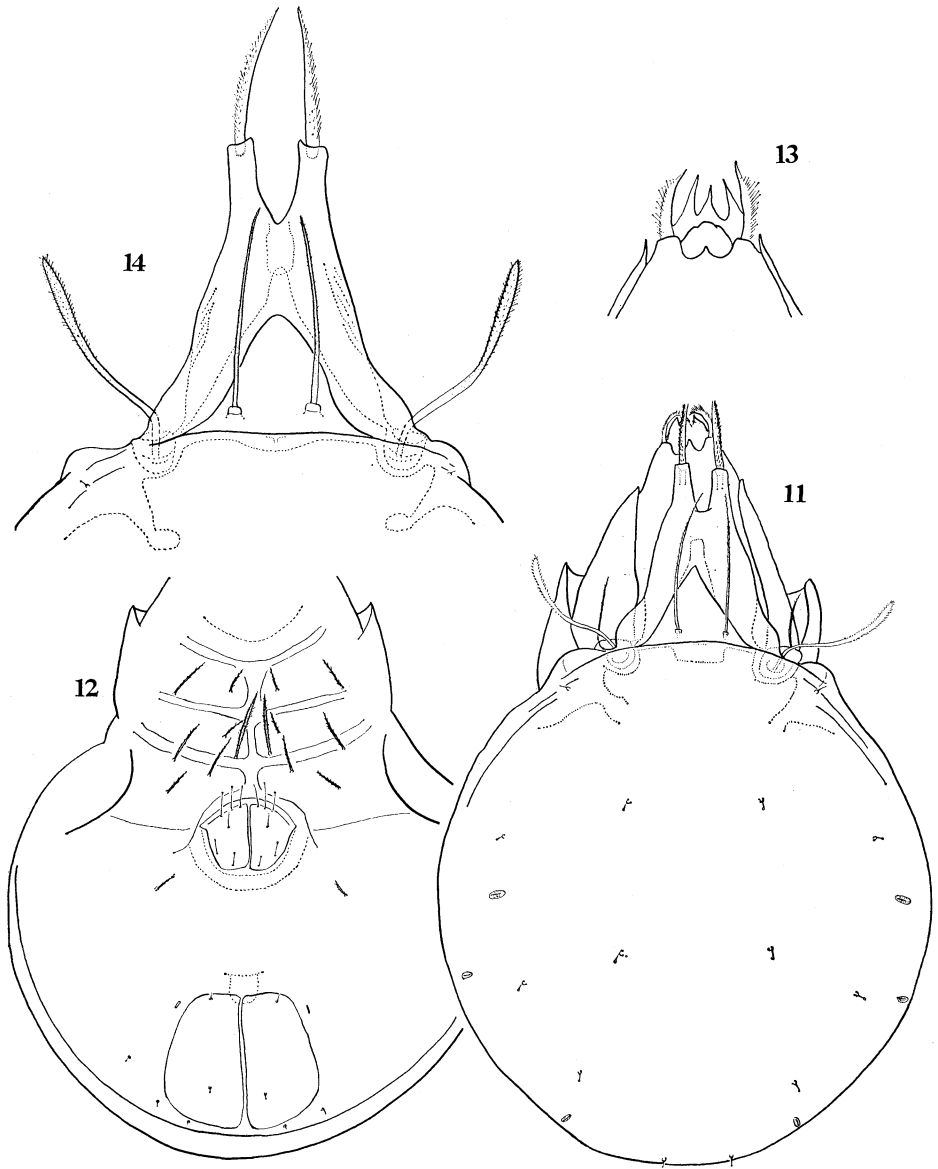
*Measurement.* Body length: 370-390 ( $\mu$ ); width 220-240 ( $\mu$ ).

*Prodorsum.* About the two-thirds of prodorsal surface is covered by large lamella of H-shape. Rostral, lamellar and interlamellar setae densely barbed; in lateral view, *ro* evenly curved like an arch, *la* very thick, densely barbed; their relative length:  $in > la > ro$ ; *in* about  $2\times$  as long as *la*. Sensillus is a slender club, becoming slightly thicker near the tip, having fine barbs on its distal half. Front margin of rostrum has 3 sharp projections (Fig. 13).

*Notogaster.* Notogaster almost circular, having a rounded humeral projection on each side. Notogastral setae very short and simple; humeral setae situated not on, but inside the humeral projection.

*Ventral side.* Genital, anal and adanal setae very simple; distance  $g_4-g_5$  longer than  $g_1-g_2$ ; *an* and *ad* almost of equal length, very short. Coxisternal and aggenital setae long, thick and distinctly barbed; on coxisternal plate II, the median pair of coxisternal setae very long, two times as long as the remaining coxisternal setae. Distance  $iad-ad_3$  almost equal to  $ad_3-ad_2$ ; distance  $an_2-iad$  equal to  $ad_2-ad_1$ .

*Remarks.* Among the 10 known species of the genus *Cultroribula* only *Cultroribula bicultrata* (BERLESE, 1904), *C. trifurcata* JACOT, 1939 and the new species have 3 sharp projections on their rostrum; sensilli of *C. shukuminensis* becoming slightly thicker near the tip, while those of *C. trifurcata* are becoming very thick toward the tip. Interlamellar setae are very long and simple in *C. bicultrata* and *C. trifurcata*.



Figs. 11-14. *Cultroribula shukuminensis* sp. n. 11: Dorsal. 12: Ventral. 13: Front margin of rostrum. 14: Lamellar and humeral parts of notogaster.

***Pergalumna aokii* sp. nov.**

[Japanese name: Aoki-furisodedani]

(Figs. 15-19)

*Material examined.* Holotype (NSMT-Ac 9368, on spirit): Tamagusuku-son, southren Okinawa. 15-VIII-1974, 5-I-1981. S. NAKATAMARI.—8 paratypes (on slides): the same data as holotype. Holotype and paratypes are deposited in the National Science Museum, Tokyo.

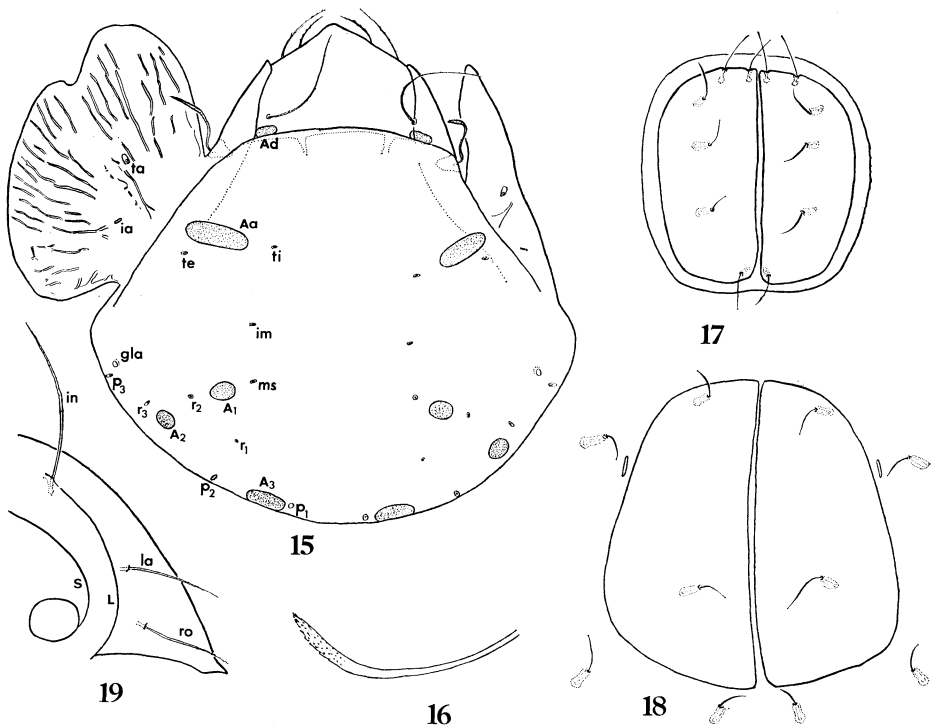
*Measurement.* Body length: 590-610 ( $\mu$ ); width: 500-510 ( $\mu$ ).

*Prodorsum.* Areae porosae *Ad* situated posterior to interlamellar setae, slightly crossing over the dorsosejugal suture. Rostral, lamellar and interlamellar setae curved, barbed and almost similar in thickness; interlamellar setae very long, whip-like; about  $2\times$  as long as *la*. Sensillus with a thin peduncle and a weakly swollen head weakly barbed (Fig. 16); its exposed portion longer than lamellar setae, but far shorter than interlamellar setae.

*Notogaster.* Dorsosejugal suture very clear. Four areae porosae on each side; *Aa* is the largest, being shaped as an ellipse; *A<sub>3</sub>* being an ellipse too; *A<sub>1</sub>* and *A<sub>2</sub>* nearly circular; their relative size:  $Aa > A_3 > A_1 > A_2$ .

*Ventral side.* Genital opening small, being nearly as long as wide; genital plate with 6 setae, which are short and simple; genital setae  $g_2$ — $g_4$  situated in a line along the mid line of genital plate;  $g_6$  situated close to the postero-median corner of genital plate. Anal plate larger than genital plate, being  $1.3\times$  as long and wide as the latter. Anal setae  $an_2$  inserted closer to the lateral margin than to the median of the plate. Genital, anal, aggenital, adanal and epimeral setae almost equal in size.

*Remarks.* The most important character of *Pergalumna aokii* are five pairs of the large areae porosae and the interlamellar setae which are much longer than rostral and lamellar setae. *Pergalumna magnipora capillaris* AOKI, 1966, has a similarity to *P. aokii* in the shape of areae porosae (*Aa*, *A<sub>1</sub>* and *A<sub>3</sub>*), but the former has no dorsosejugal suture, long and whip-like sensilli and larger body size. Areae porosae *Aa* is longitudinal triangle in *P. altera* (OUDEMAS, 1915), slender pore in *P. akitaensis* AOKI, 1961, triangle or square in *P. incompta* ENGELBRECHT, 1972, and ellipse in *P. aokii*. Interlamellar setae of *P. incompta* and *P. aokii* are very long, but they are glabrous in the former and weakly barbed in the latter.



Figs. 15-19. *Pergalumna aokii* sp. n. 15: Dorsal. 16: Sensillus. 17: Genital plate. 18: Anal plate. 19: Lateral view of the propodosoma.

### 摘 要

中玉利澄男 (嘉数学園沖縄高等学校, 〒902 那覇市国場 747): 沖縄本島産のササラダニ 3 新種について。

沖縄本島の中南部からサンゴツツハラダニ (新種) *Lohmannia corallium* sp. n., シュクミネマルタゴダニ (新種) *Cultroribula shukuminensis* sp. n., アオキフリソデダニ (新種) *Pergalumna aokii* sp. n. の 3 種を記載した。沖縄本島からササラダニの新種が記載されるのは、これが始めてであり、今後さらに追加記載されるものと考えられる。

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